

Comparisons of Job Characteristics

Focus Occupation: Geological and Petroleum Technicians (19-4041)

Associated Occupation: Environmental Science and Protection Technicians, Including Health (19-4091)

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 82

Focus Occupation: Geological and Petroleum Technicians (19-4041)

Associated Occupation: Environmental Science and Protection Technicians, Including Health (19-4091)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation
Computers and Electronics	8.4	13.6	14.4	0 Current knowledge level may be sufficient
Chemistry	4.8	13.2	10.7	< Expanded education and/or training may be required
Biology	3.7	11.4	3.9	<< Extensive education and/or training may be required
Public Safety and Security	6.9	11.1	7.1	<< Extensive education and/or training may be required
Physics	4.3	9.9	11.2	> Current knowledge level is likely sufficient
Law and Government	5.9	9.8	7.3	<< Extensive education and/or training may be required
Geography	3.9	9.7	11.6	> Current knowledge level is likely sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 95

Focus Occupation: Geological and Petroleum Technicians (19-4041)

Associated Occupation: Environmental Science and Protection Technicians, Including Health (19-4091)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation
Science	4.5	10.3	9.8	0 Current skill level may be sufficient
Mathematics	6.2	9.2	7.8	< A higher skill level may be required
Operations Analysis	5.0	7.9	4.8	<< Extensive development of skills in this area may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities		Similarity of Focus Occupation to Associated Occupation: 97			
Focus Occupation: Geological and Petroleum Technicians (19-4041) Associated Occupation: Environmental Science and Protection Technicians, Including Health (19-4091)					
Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Written Expression	9.8	12.9	10.7	<	Some improvement in abilities may be required
Near Vision	11.1	12.8	11.1	<	Some improvement in abilities may be required
Mathematical Reasoning	6.3	9.1	8.4	0	Current ability level may be sufficient
Number Facility	6.3	9.0	8.4	0	Current ability level may be sufficient
Rate Control	3.8	6.7	4.2	<<	Extensive improvement in abilities may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common		Similarity of Focus Occupation to Associated Occupation: 90
Focus Occupation: Geological and Petroleum Technicians (19-4041) Associated Occupation: Environmental Science and Protection Technicians, Including Health (19-4091)		
Work Activities	Exclusivity of Activity	
Adhere to safety procedures	12	
Analyze chemical experimental, test, or analysis data or findings	69	
Analyze scientific research data or investigative findings	27	
Calibrate or adjust electronic equipment or instruments to specification	67	
Collect geographic or physical data	81	
Collect samples for testing	58	
Collect scientific or technical data	30	
Collect statistical data	47	
Communicate technical information	4	
Compile numerical or statistical data	38	
Conduct analyses to determine physical properties of materials	80	
Conduct laboratory research or experiments	57	
Conduct standardized qualitative laboratory analyses	62	
Conduct standardized quantitative laboratory analyses	62	
Develop or maintain databases	30	
Develop tables depicting data	33	
Direct and coordinate activities of workers or staff	3	
Explain complex mathematical information	30	

Follow safe waste disposal procedures	50
Identify properties of soil or water samples	85
Maintain records, reports, or files	5
Measure, weigh, or count products or materials	17
Operate industrial or nondestructive testing equipment	84
Perform safety inspections in industrial, manufacturing or repair setting	32
Prepare reports	8
Prepare safety reports	60
Prepare sample for laboratory testing, analysis, or microscopy	74
Record test results, test procedures, or inspection data	48
Set up or calibrate laboratory equipment	78
Test materials or solutions	73
Understand properties of gases or liquids	78
Use chemical testing or analysis procedures	54
Use computers to enter, access or retrieve data	3
Use hazardous materials information	35
Use knowledge of materials testing procedures	70
Use knowledge of metric system	39
Use laboratory equipment	60
Use mathematical or statistical methods to identify or analyze problems	30
Use microscope	71
Use physical science research techniques	68
Use precision measuring tools or equipment	17
Use quantitative research methods	35
Use relational database software	26
Use scientific research methodology	21
Use spreadsheet software	18
Use word processing or desktop publishing software	17

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus
Occupation to Associated
Occupation: 80

Focus Occupation: Geological and Petroleum Technicians (19-4041)

Associated Occupation: Environmental Science and Protection Technicians, Including Health (19-4091)

Tools and Technologies	Exclusivity
Business function specific software	1
Cameras	2
Chemical evaluation instruments and supplies	10
Computer data input devices	2
Computers	1
Content authoring and editing software	1
Data management and query software	1
Electrochemical measuring instruments and accessories	9

Gas analyzers and monitors	10
Industry specific software	1
Information exchange software	1
Laboratory pumps and tubing	23
Liquid and solid and elemental analyzers	19
Pipettes and liquid handling equipment and supplies	16
Sampling equipment	12
Soil measuring equipment	20
Spectroscopic equipment	10
Viewing and observing instruments and accessories	4
Water treatment and supply equipment	21

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.